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ABSTRACT

The applicability of a factor analytic approach to explore the nature of a complex job performance criterion for nursing practice and to determine the dimensions of this criterion was investigated. A national sample of 1,038 nurse educators from 85 randomly selected programs judged performance criteria contained in the Clinical Nursing Rating Scale and the Nurses' Professional Orientation Scale. A common factor analysis was conducted to identify dimensions of nursing practice underlying the scales. Internal consistency estimates and item-total subscale score correlations were calculated to examine stability of item groupings across a sample from the same population. A nested design multiple analysis of variance was used to investigate whether the mean subscale scores differed among faculty members from the three types of nursing educational programs (diploma, associate degree, and baccalaureate). Four stable factors emerged. Factor I represented an interpersonal dimension. Misconceptions and myths about nursing loaded on Factor II. Factor III represented a cognitive-leadership component, and Factor IV represented dependent nursing functions. Internal consistency for these subscales using coefficient alpha ranged from .81 to .91. Item-subscale correlations consistently were highest for the subscale on which the item loaded. Faculty from the three types of nursing educational programs did not differ. Appended materials include a bibliography, sample items from the rating scales, and information on characteristics of participating nursing faculty members. (Author/SW)

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Perceived Dimensions of Nursing Practice: A Factor Analytic Study Using Nurse Educators

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Perceived Dimensions of Nursing Practice: A Factor Analytic Study Using Nurse Educators

The commitment to admit applicants who will succeed in nursing has existed since the foundation of the first schools of nursing. Three major criteria (operational definitions of "success") have been used: attrition, academic performance and performance on state licensing examinations. But as an ultimate criterion, none of these are satisfactory. A serious deficit in prediction studies of success in nursing is that an ultimate criterion, nursing practice competency (on-the-job-performance), has not been adequately considered.

Why has nursing practice competency not been used as a criterion variable in prediction studies? Why has this been the least investigated area of prediction in nursing? Abdellah (1961) suggested that this absence of research is due to a lack of a clear definition of nursing. Yet in other health related professions, which also lack clearly defined domains of clinical practice, there have been at least preliminary attempts to study the nature of competency in professional practice (Hunter, Salkin, Leve, & Hildebrand, 1975; Johnson & Hurley, 1976; Lind, 1970; Price, Taylor, Richards, & Jacobsen, 1964; Schatz, 1976). In these disciplines there have also been efforts to investigate methods of measuring practice competency (Blum & Fitzpatrick, 1965; Brumback & Howell, 1972; Cowles & Kubany, 1959; Crocker, Muthard, Slaymaker, & Samson, 1975; Howell, Cliff, & Newman, 1960; Johnson & Hurley, 1976; Newman, 1951; Taylor, Lewis, Nelson, Longmiller, & Price, 1969; Wightman & Wellock, 1976). Measurement techniques and statistical procedures that will help in developing competency criteria do exist (e.g., Brandt, 1971; Brumback & Vincent, 1970a; McDermott, McGuire, & Berner, 1976; Mehrabian, 1969; Oratio, 1976; Price, Taylor, Richards, & Jacobsen, 1964; Schatz, 1976; Valdez, 1977). Thus similar efforts in nursing seemed timely and appropriate.

To pursue such inquiry, one must first consider what experts in the area of criterion development have recommended as guidelines on how to attack the problem of identifying and quantifying a competency criterion. Dunnette (1963), Ghiselli (1956), Thorndike (1949), and Toops, (1944) have proposed that successful job performance is multidimensional. Dunnette (1963) has implored researchers exploring this

criterion problem to stop searching for the single criterion. Viewing a competency criterion as multifaceted suggests that examining the criterion's dimensionality is appropriate and necessary. One must examine what variables meaningfully contribute to the conceptual criterion and determine what elements are alike. Additionally one must investigate how the performance criteria combine and are organized. Thus the nature of the behaviors that compose the conceptual criterion becomes more clear. Ryans (1957) pointed to logical classification and intercorrelational study as useful for this purpose.

Generally in the past identifying the components of nursing practice competency has not been pursued through empirical methods. When developing instruments to evaluate nursing practice competency, nurse researchers have consistently relied on a rational approach. Empirical methods for criterion development need to be investigated in nursing.

One approach that allows investigation of dimensionality is factor analysis. This technique provides a means to empirically combine multiple criterion elements, performance criteria (observable behaviors that are related to the conceptual criterion), on the basis of their intercorrelations, permitting identification of the conceptual criterion's underlying dimensions. By applying an empirical factor analytic approach to criterion development not only can the conceptual criterion's composition be explored but the criterion's dimensional characteristics can be identified.

When a conceptual criterion's composition is explored, one must also consider "the dimensional characteristics of the criterion including the matter of relative importance of each component of the dimension and of each dimension's contribution to the overall criterion" (Ryans, 1957, p. 39). With factor analysis the relative importance of each criterion element to the dimension and each dimension's importance to the criterion can be examined.

Another aspect of criterion development is to examine the intercorrelation of the criterion's dimensions. Such an investigation allows a better understanding of the nature of the dimensions and their relationship to one another. The dimensions' intercorrelations can be obtained with factor analysis.

There is no evidence in the nursing literature that an empirical approach to criterion development has been attempted to identify dimensions, criterion elements, or explore the nature of the conceptual criterion competent nursing practice. Nor has the intercorrelation of dimensions been investigated.

There have been a few studies in the health related fields that have used a factor analytic approach for job performance criterion development. Brumback and Vincent (1970a; 1970b) in attempting to build a performance appraisal system for commissioned officers in the United States Public Health Service used factor analytic techniques to identify the basic areas of work activities. They then used a cluster analysis to group positions that were alike in their setup of duties. The authors emphasized that this type of job analysis has enabled the production of a more effective performance appraisal system.

Price, Taylor, Richards, & Jacobsen (1964) believed that "basic to better selection and more satisfactory training of medical students is a clearer knowledge than we now possess of what we are trying to produce - a more definite concept of what is implied by the term 'a good physician'" (p. 230). To explore this concept a well diversified representative sample of physicians (over 500) was selected and over 200 measures of physician information was collected on each. By factor analysis, dimensions of physician performance were derived and then factor score profiles were derived.

Johnson and Hurley (1976) used a factor analytic approach to identify the dimensions of entry level practice for dietitians. Oratio (1976) also used factor analysis to identify the major dimensions used by supervisors to evaluate the therapeutic effectiveness of students in their speech pathology clinical practicum.

These studies offer evidence that the factor analytic approach may hold promise for conceptual criterion development in the health related fields.

Ryans (1957) stressed that another issue in criterion development was the generalizability of the dimensions of elements to additional samples of the same population and to samples of other populations. Thus deriving dimensions of competency through a factor analytic approach that groups criterion elements into factors (dimensions) requires the demonstration that the groupings are stable. Specifically it must be

shown that the dimensions are not unique to the sample, With a factor analytic approach, it is essential that dimensions generalize and that factor loadings and factor weights generalize to some extent. In nursing this generalizability issue has been dealt with by sampling from nursing experts rather than by using larger samples and cross-validation techniques.

To utilize a factor analytic approach, an essential ingredient is the identification of criterion elements. Although the conceptual criterion of competent nursing practice has not been clearly defined, elements of the criterion can and have been identified. A few studies reported in the nursing literature in the area of on-the-job nursing performance have explored what behaviors ought to be exhibited by a "good" nurse (e.g., Brandt, Haste, & Schumann, 1967; Holliday, 1961; Taylor, Nahm, Harms, Berthold, & Wolfer, 1966). Some researchers have attempted to identify critical nursing behaviors in the hospital setting that improve the patient's health status (e.g., Holliday, 1961; Jensen, 1960; Whiting, 1957). A team of nursing service researchers in an extensive study reported by Gorham (1962) identified a pool of important nursing practice behaviors. In fact instruments composed of behaviors and traits (performance criteria) judged to be important for competent nursing practice have been described in the literature. These include the Clinical Nursing Rating Scale (Reekie, 1970), the Nurses' Professional Orientation Scale (Crocker & Brodie, 1974), the Slater Nursing Competencies Rating Scale (Wandelt & Stewart, 1975), and the Nurse Competency Inventory (Nelson, 1978).

Authorities in the criterion area (Astin, 1964; Ryans, 1957; Toops, 1944) repeatedly have stressed the deriving a criterion eventually requires a judgement or set of judgements. When using such techniques as factor analysis to explore the nature of a competency criterion, someone must judge how relevant each performance criterion is to the conceptual criterion. Nurses as opposed to physicians, hospital administrators or employers must serve as the judges for weighting the relevance of each performance criterion to the conceptual criterion, competent nursing practice.

Nursing educators are one of the groups in nursing who should serve as judges of performance criteria importance to the conceptual criterion, competent nursing practice. Since there are three different

types of nursing educational programs, it was also necessary to know if the faculty from these programs hold similar views of what constitutes desirable practice in nursing. This is not to say nursing educators are the only group who should serve as such judges but for this initial study only one group in nursing was sampled.

Statement of the Problem

The purpose of this methodological study was to investigate the applicability of a factor analytic approach to explore the nature of a complex job performance criterion and to determine the dimensions (components) of this criterion. An empirical approach to criterion development using a factor analytic technique to examine the dimensionality of the conceptual criterion competent nursing practice, the dimensions' intercorrelations, the dimensions' and the performance criteria's weighting, and the dimensions' generalizability to a cross-validation sample was explored.

This study served to demonstrate an empirical approach that can be utilized to investigate the nature of the complex conceptual criterion, job performance competency, through factor analytic techniques and to demonstrate a method for generating measures of nursing practice competency. From this study, it was possible to assess if this empirical approach to criterion development led to the identification of stable dimensions of nursing practice competency and to determine if the approach should be extended using the same techniques to different populations within the nursing profession.

Methodology

The Subjects

The respondent pool consisted of registered nurses employed as faculty members in National League for Nursing (NLN) accredited nursing programs. Initially 30 schools were randomly selected from each NLN listings of accredited nursing programs -- diploma, associate degree and baccalaureate. Although associated degree programs outnumber baccalaureate degree and diploma programs (603 to 316 and 426 respectively), baccalaureate nursing faculty outnumber associate degree and

diploma nursing faculty (10,750 to 7,288 and 7,407 respectively) (Facts About Nursing 76-77, 1977). Thus equal numbers of each program type were sampled.

During October, 1978 to January, 1979, each selected program's head (Dean or Director) was contacted by mail requesting her nursing faculty members' participation in the study. After her cooperation was obtained, a questionnaire for each faculty member with a cover letter was sent to the program head. The Dean or Director supervised questionnaire distribution to the faculty. Each participant returned the completed questionnaire to the Dean's or Director's office in a sealed envelop to assure anonymity. Following this the set of sealed completed questionnaires was mailed to the researcher.

Twenty-eight diploma program directors agreed to ask their faculty to participate. In these programs, 382 of 506 faculty members returned completed questionnaires, a 75% return rate.

Although 21 of 30 Deans from associate degree programs agreed to ask their faculty to participate, 17 additional randomly selected programs were contacted to assure a minimum representation of 300 associate degree nursing faculty members. Thirteen additional Deans agreed to participate. Also associate degree faculty members employed in a combination A.D.-B.S. program participated. Thus 35 faculties were represented in the associate degree nursing faculty sample, and 349 of a possible 494 individuals participated, a return rate of 71%.

Nineteen Deans from baccalaureate programs agreed to participate. An additional 5 to 13 randomly selected baccalaureate program Deans agreed to ask their faculty to participate. Of 553 faculty members, 357 returned completed questionnaires, a 65% return rate.

Among the nonparticipating programs, 24 did not respond to the initial contact letter, nine responded but declined to participate for the reasons indicated below:

1) two institutions were undergoing accreditation,
2) faculty had too heavy a teaching or administrative load at the time,
3) participation required too much faculty time,
4) two faculties were occupied with major curricular revisions at the time,
5) the study was conducted too close to the end of the academic term,
6) faculty were already overtested,
7) faculty lacked time to participate in such a study.

The overall respondent pool was 1038 faculty members. Ten faculty members were dropped from the sample because portions of the questionnaires were incomplete. Descriptive characteristics of participating programs are presented in Table 1. The number of respondents from any one institutions ranged from 1 to 34 persons, constituting from 0% to 3% of the total respondent pool. The overall response frequencies for the biographical information including geographical, demographic, employment and educational characteristics of participating faculty are presented in Appendix A.

The Measures

Two rating scales were used, the Clinical Nursing Rating Scale (Reekie, 1970) and the Nurses' Professional Orientation Rating Scale (Crocker & Brodie, 1974). The Clinical Nursing Rating Scale was based on the work of Jensen (1960) and Gorham (1962). In addition, Reekie examined 29 other written sources dealing with traits and behaviors viewed as important to patient welfare. From 864 statements of nursing behaviors, 132 distinct behavioral descriptions were derived that nursing experts then rated on level of importance and on item quality. Items having above the mean scores were then Q-sorted by other nurse experts to arrive at the final 25 "most important" behaviors. The internal consistency of the scale was examined using factor analysis. The instrument's content validity was established by nurse experts. Criterion-referenced validity was explored by correlating the scale's total rating score with total college GPA (r = .50), total nursing GPA (r = .52), and upper division nursing GPA (r = .53). The Clinical Nursing Rating Scale was chosen for this study because the instrument was soundly developed using proven techniques, i.e., critical incidents and Q-sort methodology, it was designed to serve as a criterion measure for predictive purposes and it provided a way to tap the previous work of Jensen (1960) and Gorham (1962). Also its length allowed a second instrument to be included in the questionnaire without requiring participants to invest an inordinate amount of time in completing the questionnaire.

The Nurses' Professional Orientation Rating Scale was developed by Crocker and Brodie (1974) to serve as a measure of ability to assume

Table 1

Characteristics of Participating Nursing Faculty Members and Participating Nursing Programs

Characteristics	Faculty Frequencies	Adjusted Percent	Participating Program Frequencies Dip.	AD.	Bac.	Nonparticipating Program Frequencies Dip.	Ad.	Bac.
Region of country								
Northeast	413	38	14	8	7	2	3	6
Northcentral	154	14	6	2	6	0	2	4
Northwest	48	4	0	5	0	0	1	0
Southeast	245	23	5	9	6	0	5	3
Southcentral	139	13	3	8	3	0	1	2
Southwest	78	7	0	2	2	0	0	4
Size of City								
over a million	61	6	4	0	2	0	0	1
over 100,000 but less than a million	415	39	13	13	4	0	5	9
over 30,000 but less than 100,000	274	25	8	9	7	1	2	5
under 30,000	327	30	3	12	11	1	5	4
Funding and Affiliation								
State	322	30	0	12	10	0	1	11
Catholic	203	19	7	0	8	1	0	3
Lutheran	40	4	2	0	2	0	0	0
Methodist	34	3	2	0	0	0	0	0
Baptist	13	1	1	0	0	0	0	0
Seventh Day Adventist	35	3	0	1	1	0	0	2
Private	138	13	7	4	0	0	1	1
Community	170	16	3	14	0	0	10	0
City	122	11	6	3	2	1	0	1
Mennonite	7	0	0	0	1	0	0	0
Evangelical	0	0	0	0	0	0	0	1
Type of Educational Institution								
University			0	8	12	0	1	12
College			0	13	12	0	1	7
Junior, Community or Technical College			0	13	0	0	10	0

the professional nursing role, i.e., to practice nursing competently. The initial item pool consisted of 112 characteristics frequently used to describe nurses in their professional role. A final subset of 59 items was chosen by correlating item scores with class rank on the assumption that advanced students should be more professionally "socialized" than younger students. The internal consistency of the scale computed on a cross-validation group using Cronbach's coefficient alpha was $\underline{r} = .89$. Construct validity was suggested by finding that significant differences existed between means of each adjacent pair of classes. The Nurses' Professional Rating Scale was selected as the second instrument because the instrument was composed of a mixture of items that ranged in importance from undesirable to extremely important in relation to competent nursing practice. Thus the instrument was less susceptible to response bias than other available instruments.

For both instruments the nursing faculty members were asked to judge each item's importance for the practicing professional nurse. The order of the two scales was randomly varied among the programs to eliminate any systematic variance due to order of scale presentation. Standard instructions were used and a standardized biographical inventory was collected from each participant. Sample items from both scales are presented in Appendix B.

The Research Questions

The research questions were as follows:

1) With an item pool created by combining the Clinical Nursing Rating Scale and the Nurses' Professional Orientation Scale, what underlying dimensions (factors) emerge when respondents rate each item in the item pool as to importance to the conceptual criterion?

2) When items are grouped into subscales on the basis of factor coefficients, are these subscales homogenous when administered to a cross-validation sample?

3) Are there differences in mean subscale scores among nursing faculty members from the three distinct types of educational programs, i.e., associate degree, baccalaureate degree, and diploma programs?

Analysis of the Data and the Results

The respondent pool within each type of educational program was

randomly split in half to create two groups. One group was used in the factor analysis to determine the items' underlying dimensions (n = 540). The other group served as the cross-validation sample to test the homgeneity of the subscales and the differences in mean subscale scores among the faculty from the three educational programs in nursing. Evidence for homogeneity was defined to be high internal consistency estimates (coefficient alphas) and correlations that demonstrate that each item correlates more closely with its total subscale score than any other subscale score.

Occasional missing item responses were handled by using the modal response for the item. If more than eight items were missing, the questionnaire was not scored.

Factor Analysis

Common factor analysis was used to determine the underlying dimensions of the ratings of the item pool created by combining the two rating scales. A principal axis solution was initially rotated to a varimax criterion using Guertin's Ed 501 program (Guertin & Bailey, 1970). The criteria used to determine the number of factors were: (1) maximum number of factors = 2.0 number of variables + .5, (2) minimum latent root value = (number of variables/75) + .20, and (3) visual inspection of several rotation trials to determine the most satisfactory number of factors. Then the principal axes were rotated to an oblique solution using Guertin's Ed 512 program (Guertin & Bailey, 1970) to obtain factor intercorrelation coefficients.

A five factor orthogonal solution was determined to be appropriate. A solution with fewer factors rotated resulted in compression of the last factor into prior factors. Rotation of six or more factors provided a less clear factor structure with factors emerging that had very small sums of the squared factor loadings. From the primary factor intercorrelation matrix (see Table 2) it was determined that the factor intercorrelation matrix were relatively small, therefore the orthogonal rotation was satisfactory. The sum of the squared factor loadings for the five factor orthogonal solution was 28.51, that was 34% of the total score variance and 55% of the total common variance. In terms of variance accounted for this was considered a satisfactory solution. The sum of the squared factor loadings for each rotated

factor was:

Factor I = 8.05
Factor II = 7.30
Factor III = 6.21
Factor IV = 4.98
Factor V = 1.97

Table 2

Intercorrelations of the Oblique Solution Primary Factors for One-Half the Nursing Faculty Sample

	Faculty				
Factor	I	II	III	IV	V
I	1.00	0.04	o.41	0.22	-0.02
II	0.04	1.00	-0.11	0.38	0.14
III	0.41	-0.11	1.00	0.21	-0.03
IV	0.22	0.38	0.21	1.00	0.05
V	-0.02	0.14	-0.03	0.05	1.00

The first four factors had a sufficiently large sum of squared factor loadings and sufficient items loading on them to suggest that the factors might be stable. The fifth factor, however, had a very small sum of squared factor loadings and few items loading on it. It appeared to be unstable. The factors and factor loadings of the Clinical Nursing Rating Scale and the Nurses' Professional Orientation Scale for the analysis are presented in Table 3.

Factor I arose from items composing the Clinical Nursing Rating Scale. The factor involved items that show the nurse as a caring, supportive persor who individualizes her nursing care to meet specific patient needs as well as having personal integrity, self control, and an ability to work effectively with others. Examples of items loading on Factor I included all items appearing in Appendix B The Clinical Nursing Rating Scale. These items all had a modal response of important (4 items) or extremely important (16 items).

Table 3

Factors and Factor Loadings Using a Varimax Solution for One-Half the Nursing Faculty Sample

Item	Factor I	Factor II	Factor III	Factor IV	Factor V
	Factor I				
19.	.67				
12.	.64				
15.	.63				
22.	.63				
16.	.63				
5.	.63				
23.	.62				
17.	.61				
11.	.59				
9.	.59				
8.	.59		.32		
24.	.58				
6.	.55				
25.	.53				
7.	.51				
10.	.51				
18.	.50				
3.	.46				
4.	.45				
21.	.44				
14.	.34				.31
	Factor II				
39.		.61			
70.		.61			
68.		.61			
36.		.60			
62.		.58			
61.		.58			
57.		.57			
71.		.55			
29.		.54			
42.		.53			
83.		.53			
54.		.50			
26.		.49			
32.		.48			
53.		.46		.42	
38		.45		.31	

Table 3--Continued

Item	Factor I	II	III	IV	V
		Factor II			
82.		.45			
41.		.40		.33	
31.		.40		.33	
84.		.39			
80.		.34			
		Factor III			
66.			.66		
72.			.63		
74.			.63		
81.			.62		
69.	.31		.61		
77.			.61		
76.			.58		
50.	.32		.53		
65.			.51		
28.			.46		
49.			.45		
27.			.44		
37.	.30		.44		
60.			.43		
78.			.40		
33.			.37		
		Factor IV			
56.				.59	
55.				.54	
51.				.54	
73.		.31		.53	
48.				.51	
44.				.49	
59.		.43		.49	
47.				.48	
79.				.48	
35.				.44	
52.				.42	
64.		.31		.40	
13.	.38			.39	
58.				.36	

Table 3--Continued

Item	Factor I	II	III	IV	V
30.					.41
45.		.37			.37
34.					.37
63.				.30	.36

Items loading on Factor II, III, IV, and V came from the Nurses' Professional Orientation Scale. Twenty-one items composed Factor II. Examples of items that loaded on this second factor are indicated in Appendix B Nurses' Professional Orientation Scale. Although the ratings ranged from 1 to 5, items on this factor had the highest number of undesirable (4 items) and not at all important (2 items) ratings of any factor. Thirteen items had a modal response of 3 (slightly important) while two had a modal response rate of 4 (important). Thus this factor measured a dimension that was not relevant to competent nursing practice. These were the undesirable, irrelevant or only slightly important elements of competency according to the faculty sampled.

Sixteen items loaded on Factor III. The items reflected cognitive abilities including possession of a sound knowledge base and ability to problem solve as well as communication skills and leadership skills. The modal response for all the items on this factor was 4 (important) for 10 items or 5 (extremely important) for 6 items. Therefore faculty members generally rated these items as important, sometimes extremely important. Examples of the items loading on this factor are indicated in Appendix B Nurses' Professional Orientation Scale.

Factor IV was composed of 14 items with only one from the Clinical Nursing Rating Scale. The factor reflected satisfaction of physician's and employer's demands in terms of performance, manual skills, and a clean, uniformed appearance. These items ratings ranged from 1 to 5, but the modal response rate was 3 (slightly important) for nine items and 4 (important) for the other five items. Clearly this factor was considered less important to nursing practice competency than either Factor I or Factor III by faculty in this study. Examples of items loading on this factor are indicated in Appendix B Nurses' Professional Orientation Scale.

Only four items loaded on Factor V. The loadings were relatively small, that is the highest was .41. The modal response was 3 (slightly important) in two instances, 2 (not at all important) in another case and 4 (important) in the fourth instance. The items loading on the factor were:

30. Enjoys working with children.
45. Enjoys working in all clinical specialty areas of nursing.

34. Enjoys working with patients of all ages.
63. Takes a leadership role in local, state, or national professional organizations.

The factor was apparently very unstable and it is doubtful that these items identified a dimension of the criterion competent nursing practice.

Initially the scales used in this study were selected because it was felt that they assessed different components (dimensions) of the domain competent nursing practice. Since any factor that emerged on the common factor analysis was formed by behaviors and traits from either the Clinical Nursing Rating Scale or the Nurses' Professional Orientation Scale, this initial assumption seemed to be justified.

Homogeneity of the Subscales

When utilizing a factor analytic approach to explore the nature and dimensionality of a job performance criterion such as competent nursing practice, it is critically important to demonstrate that the approach yields stable factors. If such stability could not be demonstrated on a cross-validation sample from the same population, further exploration of this approach and use of these factors in criterion development would be useless.

To establish the subscales the factor coefficient weightings were used rather than the factor loadings. When deriving subscales through a factor analytic approach, Gorsuch (1974) recommended using the factor coefficient weights. These weights are the regression weights that would be used to estimate the factor from the observed variables. The factor structure matrix gives only the correlation coefficient between each variable and each factor.

Subscales were created by grouping items according to their highest factor coefficient weights (Gorsuch, 1974). Scoring weights were determined for the Nurses' Professional Orientation Scale by reflecting those items that had a negative factor coefficient weighting. Fifteen items were reflected using this method. Rather than calculate complete factor scores, a method of incomplete factor score calculation was used to dertermine the subscale scores (Guertin, 1970; Gorsuch, 1974). On the cross-validation sample, the faculty ratings on items composing the subscale were summed to give the subscale score. Internal consistency estimates specifically coefficient alpha, using the SPSS program

Reliability (Nie, Hull, Jenkins, Steinbrenner, & Bent, 1975), were calculated. Only items having their highest weighting on a specific factor were entered into the reliability estimate for that factor. This was done to maintain independence in the analysis (Gorsuch, 1974). The coefficient alpha for each of the subscales was as follows:

Factor I = .91
Factor II = .83
Factor III = . 83
Factor IV = .81
Factor V = .47

Thus the first four factors were highly reliable. Factor V was not only weak in terms of sum of squared factor loadings but it was not reliable.

After reflecting items on the Nurses' Professional Orientation Scale that had a negative weighting on the factor coefficient matrix, subscale scores on the cross-validation sample were calculated for each factor by summing the raw data ratings on those items composing each of the five factors. Again only items having their highest coefficient weighting on a particular factor were summed to arrive at the total subscale score for that factor. Thus no dependency was created. Each item was correlated with each subscale score, using the SPSS program Pearson Correlation (Nie, Hull, Jenkins, Steinbrenner, & Bent, 1975). These correlations were then examined to determine if the item correlated most highly with the subscale score on which it had the highest factor coefficient weight. The correlation matrix is presented in Table 4. With only two exceptions, i.e., item 8 and item 67 on Factor IV, each item correlated more highly with its total subscale score than with any other subscale score for the first four factors. Twelve of the 23 items on Factor V did not have their highest correlation with this subscale score.

The stability of the first four factors was demonstrated by the findings that on the cross-validation sample the internal consistency estimates for the subscales formed on the basis of factor coefficient weightings were high, i.e., .81 to .91. Further evidence of stability was offered by the findings that the highest correlation was consistently between the item and its subscale score on the first four factors. Subscale Factor V had a very low internal consistency estimate and the item-subscale score correlations were not consistently the highest with

Table 4

Intercorrelation Matrix of Items With Subscale Scores on the Factors for the Cross-Validation Sample

Item	Factor I	II	III	IV	V
Items loaded on Factor I (using the factor coefficient weights to determine the items composing the factor)					
5.	0.62	0.06	0.35	0.15	-0.09
6.	0.52	-0.00	0.27	0.12	-0.12
7.	0.59	0.07	0.29	0.16	-0.05
9.	0.65	0.06	0.39	0.22	-0.02
10.	0.58	0.29	0.27	0.42	-0.12
11.	0.71	0.08	0.43	0.23	-0.04
12.	0.74	0.08	0.45	0.24	-0.01
15.	0.69	0.04	0.43	0.22	-0.06
16.	0.71	0.13	0.38	0.27	-0.09
17.	0.71	0.06	0.39	0.24	-0.04
18.	0.57	0.06	0.30	0.17	-0.12
19.	0.74	0.07	0.44	0.16	-0.01
22.	0.63	0.13	0.40	0.32	-0.14
23.	0.67	0.14	0.42	0.29	-0.16
24.	0.68	0.09	0.37	0.24	0.14
25.	0.63	0.07	0.44	0.27	-0.07
Items loaded on Factor II (using the factor coefficient weights to determine the items composing the factor)					
26.	0.04	0.48	-0.03	0.23	-0.08
29.	0.05	0.59	-0.01	0.29	-0.07
36.	0.11	0.61	0.08	0.37	-0.10
38.	0.28	0.52	0.19	0.48	-0.09
39.	0.12	0.64	0.05	0.37	-0.14
42.	0.05	0.61	-0.01	0.31	-0.06
54.	0.01	0.53	-0.06	0.29	-0.13
57.	0.09	0.65	0.14	0.42	-0.05
61.	0.10	0.60	0.07	0.34	-0.09
62.	0.06	0.59	0.04	0.31	-0.09
68.	0.12	0.66	0.06	0.37	-0.07
70.	0.13	0.69	0.14	0.40	-0.06
71.	0.01	0.56	-0.00	0.33	0.02
82.	0.11	0.51	0.18	0.34	-0.03
83.	0.07	0.65	0.08	0.34	-0.10
84.	-0.03	0.38	0.02	0.11	0.07

Table 4--Continued

Item	Factor I	II	III	IV	V
Items loaded on Factor III (using the factor coefficient weights to determine the items composing the factor)					
28.	0.29	0.00	0.52	0.13	0.01
33.	0.24	0.05	0.52	0.12	0.06
37.	0.34	0.16	0.45	0.26	0.06
49.	0.35	0.14	0.54	0.29	0.02
60.	0.26	0.12	0.52	0.33	0.02
65.	0.26	0.06	0.55	0.24	0.09
66.	0.34	0.03	0.54	0.17	-0.06
69.	0.41	0.02	0.64	0.21	-0.02
72.	0.46	-0.01	0.67	0.22	-0.02
74.	0.35	0.06	0.62	0.22	-0.06
76.	0.38	0.09	0.70	0.37	-0.06
77.	0.46	0.15	0.67	0.30	-0.08
78.	0.25	-0.01	0.54	0.26	-0.03
81.	0.35	0.02	0.61	0.22	-0.03
Items loaded on Factor IV (using the factor coefficient weights to determine the items composing the factor)					
8.a	-0.66	0.01	-0.44	-0.06	0.05
13.	0.42	0.16	0.21	0.46	-0.21
31.	0.16	0.43	0.12	0.55	0.03
44.	0.33	0.34	0.24	0.57	-0.13
47.	0.33	0.33	0.32	0.58	-0.03
48.	0.38	0.28	0.32	0.62	-0.11
51.	0.32	0.35	0.35	0.65	-0.05
52.	0.23	0.31	0.32	0.60	-0.06
55.	0.18	0.27	0.21	0.56	0.03
56.	0.17	0.28	0.24	0.61	0.02
59.	0.09	0.53	0.06	0.60	-0.14
64.	0.21	0.40	0.31	0.56	-0.18
67.a	0.25	-0.06	0.37	0.23	0.10
73.	0.13	0.42	0.16	0.59	-0.15
79.	0.23	0.31	0.38	0.61	-0.13
Items loaded on Factor V (using the factor coefficient weights to determine the items composing the factor)					
1.	-0.19	0.01	-0.25	-0.07	0.37
2.	-0.13	0.00	-0.16	-0.04	0.47
3.	-0.22	0.03	-0.23	-0.09	0.43
4.	-0.27	-0.05	-0.20	-0.15	0.47

Table 4--Continues

Item	Factor I	II	II	IV	V
14.	-0.20	-0.10	-0.14	-0.09	0.54
20.	-0.04	-0.06	-0.06	-0.18	0.53
21.	-0.29	-0.09	-0.23	-0.20	0.51
27.	-0.11	-0.01	-0.22	-0.01	0.40
30.	0.10	0.17	0.14	0.22	0.33
32.a	-0.03	-0.48	-0.02	-0.28	0.31
34.a	0.14	0.40	0.23	0.37	0.21
35.a	-0.24	-0.40	-0.24	-0.52	0.27
40.a	0.20	0.34	0.25	0.47	0.15
41.a	-0.14	-0.47	-0.06	-0.45	0.31
43.	-0.01	0.18	0.07	0.16	0.23
45.a	0.08	0.40	0.15	0.32	0.21
46.a	0.10	0.35	0.06	0.32	0.20
50.a	0.42	0.04	0.59	0.23	0.11
53.a	-0.26	-0.44	-0.16	-0.57	0.22
58.a	0.12	0.32	0.21	0.41	0.05
63.	0.15	0.06	0.35	0.19	0.35
75.a	-0.13	-0.35	-0.23	-0.35	0.31
80.a	-0.17	-0.30	-0.31	-0.42	0.23

[a]Highest correlation not with factor on which the item was loaded

this subscale.

Thus on the basis of these two correlational analyses, the subscales obtained by grouping items together on the basis of their factor structure were homogenous when administered to a cross-validation sample, except in the case of an extremely weak factor with small factor loadings.

Subscale Score Comparisons

Differences in the mean subscale scores among faculty from the three programs were tested using a nested design multivariate analysis of variance with programs and schools nested within program as the independent variables and subscale scores as the dependent variables. The level of significance was set at $p < .025$ to maintain an overall level of significance at $p < .05$. The type IV approach (Barr, Goodnight, Sall, & Helwig, 1976), i.e., a classical regression approach, was used for deriving the sums of squares in the multivariate analysis of variance procedure. This sums of squares calculation uses an unweighted means procedure whereas the Type II, classical experimental, approach uses weighted means established by the number of faculty per school. The original intent of the study was to view each school, which was the unit of random sampling, as equal regardless of the number of faculty members who consented to participate from each program. Thus Type IV sums of squares was judged to be the most appropriate approach.

No significant differences were found for program effects, using the Pillai's trace criterion (F [8,162] = 1.69, NS) and schools within program as the error term. For schools with program effects using the Pillai's trace criterion, significant differences were found (F [332,1797] = 1.29, $p < .025$).

In view of the significant schools within program effect, univariate analysis of variance on each of the subscales was done as follow-up procedure. The means and standard deviations of the subscales scores for the three types of nursing programs are presented in Table 5. Again to maintain an overall level of significance at $p < .05$, the p for each separate test was set at .0125. As would be expected, no significant main effects from program on any subscale were found (F [2,83] = 0.80, NS; F [2,83] = 4.09, NS; F [2,83] = 3.16, NS; F [2,83] = 0.89, NS). Significant mean effects for schools within program were found for subscale Factor I and subscale Factor II (F [83,452] = 1.44, $p < .0125$ and

$F\ [83,452] = 1.61$, $p < .0125$). No significant main effect for schools within program was found on subscale Factor II or on subscale Factor IV ($F\ [83,452] = 1.17$, NS and $F\ [83,452] = 0.99$, NS). The sum of squares table for these analyses is presented in Table 6.

Thus faculty ratings did not differ among the three educational programs on any subscale score. Faculty ratings among the programs differed from schools within programs on subscale Factor I and subscale Factor III. However the faculty ratings did not differ from schools within program on subscale Factor II and subscale Factor IV.

Table 5

Means and Standard Deviations of Subscale Scores for the Three Types of Nursing Programs ($n = 538$)

	Subscale			
Program	I	II	III	IV
Baccalaureate and higher degree				
Mean	77.10	75.57	59.30	69.73
SD	8.55	8.25	11.69	13.19
Associate degree				
Mean	76.67	73.57	60.15	69.11
SD	9.06	10.08	9.54	13.96
Diploma				
Mean	76.63	75.72	60.21	71.14
SD	9.88	8.85	11.79	12.93

For completeness, total score on both instruments combined was tested satistically for differences among the mean scores for faculty from the three types of educational programs in nursing by use of a nested design univariate analysis of variance ($p < .05$). The results of this analysis are presented in Table 7. No significant main effects for program or schools within program were found ($F\ [2,83] = 0.89$, NS and $F\ [83,452] = 1.21$, NS). Thus there was no difference among the faculties from the three types of educational programs on total score.

Because individual differences among schools were not of importance

Table 6

Multivariate Analysis of Subscale Total Scores as a Function of Program and Schools Within Program

Subscale	Source	SS	df	MS	F
		Multivariate Analysis			
	program		8		1.69
	schools within program		162		
	schools within program		332		1.29*
	error		1,797		
		Univariate Analysis			
Factor I	program	96.67	2	48.34	0.81
	schools within program	4960.90	83	59.77	1.44**
	error	18724.29	452	41.43	
Factor II	program	1101.47	2	550.74	4.09
	schools within program	11183.53	83	134.74	1.17
	error	52115.56	452	115.30	
Factor III	program	285.97	2	142.99	3.16
	schools within program	3750.02	83	45.18	1.61**
	error	12654.92	452	28.00	
Factor IV	program	62.24	2	31.12	0.89
	schools within program	2905.64	83	35.00	0.99
	error	15929.92	452	35.24	

*p .025.

**p .0125.

to this study, post hoc comparisons of the schools within program differences were not performed. Also if the post hoc comparisons were made, the results would probably not be interpretable except by the faculty in the particular programs that were different.

Table 7

Univariate Analysis of Total Ratings Score as a Function of Program and Schools Within Program (n = 538)

Source	SS	df	MS	f
program	1188.28	2	594.14	0.89
schools within program	55332.11	83	666.65	1.20
error	250963.32	452	555.23	

Discussion

Dimensionality

The first four subscales were concluded to be stable across a cross-validation sample from the same population. The fifth factor was not stable on a cross-validation sample. The study's results support the position that the components (dimensions) of a criterion competent practice (competency) can be identified by empirically grouping behaviors and traits that are highly correlated (similarly rated). By using such a technique to group criterion elements, the nature of the criterion components can be examined and identified. Factor analysis provides such an empirical approach and did yield stable factors that generalized to a second sample from the same population.

Unquestionably three of the four factors, i.e., Factor I, Factor III, and Factor IV, were perceived components of the conceptual criterion competent nursing practice. Factor I represented a perceived interpersonal dimension of competent nursing practice. It primarily involved interpersonal relationships with patient and family members

since items reflecting such behaviors had the highest loadings on the factor. But the factor also included items dealing with interpersonal relationships among nursing colleagues and other peers although the loadings of these items are smaller. Because Factor I had the highest factor loadings (demonstrated by its having the largest sum of squared factor loadings) and had the highest percentage of items with a modal response rate of 5 (extremely important), it can be concluded that faculty overall viewed this perceived dimension among those identified as the most critical to competent nursing practice.

Factor III reflected a perceived cognitive-leadership dimension of practice competency. This component had a slightly lower sum of squared factor loadings and had more modal responses of 4 (important). Faculty therefore in general rated this factor as slightly less important than Factor I but clearly still viewed this as an important perceived dimension of competent practice.

Factor I and Factor III were slightly correlated; however, it seemed apparent from this study that the items forming these factors tap two different dimensions and should not be viewed as or weighted the same. These two dimensions have not been clearly identified as such in the rationally determined categories established for the instruments discussed previously. Thus this empirical approach did yield slightly different dimensions than those established by rational approaches.

Both Factor I and Factor III focused on independent nursing actions. Factor IV emphasized dependent nursing functions, i.e., those activities that involve physicians and the performance of physician ordered therapies as well as those tasks involving routine hospital procedures and policies. The items composing this factor encompassed a more traditional view of nursing practice. Clearly faculty as a whole viewed these behaviors and traits as relevant to competent nursing practice since they rated these items as slightly important to important. But the faculty placed less importance on this factor in comparison to Factor I and Factor III, since the modal response ratings were lower.

Again Factor IV should be viewed as different from the other previously discussed dimensions. Also it should be weighted differently.

This perceived component of competent nursing practice has generally been identified by other than empirical approaches as well.

Factor II is unquestionably the least important factor in terms of overall faculty ratings. With the lower modal response rate and in view of the raw data ratings, it would seem that this factor did not reflect a perceived dimension of competent nursing practice. At best these items dealt with very traditional perceptions of nursing reflecting behaviors that were inconsistent with many faculty members' philosophical beliefs. This factor however might well be very sensitive to attitudinal change especially when investigating the professional socialization of beginning nursing students since the items reflect common misconceptions and myths about nursing.

Factor II and Factor IV were slightly correlated. This was not surprising since they were formed by items reflecting traditional expectations.

Since Factor V was unstable and did not generalize across samples from the same population, it could not be viewed as representing a dimension of competent nursing practice. The grouping might well be an artifact of the small sample size in relation to the number of items entered into the factor analysis. With a large sample size, it might disappear as a factor.

Unquestionably there are additional dimensions of nursing competency other than those identified in this study. Even those perceived dimensions identified in this study may not be the only dimensions represented by the items composing the two scales, the Clinical Nursing Rating Scale and the Nurses' Professional Orientation Scale. Again with a larger sample size other dimensions may emerge from either scale. But the factor analytic approach did yield clear-cut dimensons. This approach also provided data on the correlations of the factors and offered some information on how dimensions and items should be weighted. The data suggest that the weighting of the components should be different since the components as rated by faculty range in importance.

The study's results clearly supported the position taken by Astin (1964), Dunnette (1963a), Ghiselli (1956), Ryans (1957), Thorndike (1949), and Toops (1944) that successful job performance is multidimensional.

No single performance criterion could adequately measure the three perceived dimensions of competent nursing practice identified in this study.

One limitation of a factor analytic approach using common factor analysis should be pointed out. Although the factor analysis accounted for 55% of the common score variance, this was only explaining 34% of the total score variance. For predictive purposes, i.e., predicting competent nursing practice, this is a concern.

Homogeneity of Subscales

The items forming the first four subscales as was stated previously did demonstrate internal consistency and they did consistently correlate most highly with the subscale they helped to form on a cross-validation sample from the same population. These findings suggested that the factors are stable across the same population. This supported the claim that an empirical factor analytic approach for examining ratings of importance on existing instruments is productive and worthy of further exploration in terms of investigating the nature of a competency criterion in an applied discipline such as nursing.

Subscale Score Comparisons

The finding that there were no significant differences for program effects among the three faculties teaching in the different educational programs in nursing suggested that faculty members in general view the items composing the two scales in terms of their importance to competent nursing practice similarly. This lent support to the initial assumption that this group of nurses as a whole was an appropriate population to utilize for this type of study.

The fact that faculty from the three educational programs did not significantly differ on their mean subscale scores has serious implications for the nursing discipline. Since faculty across programs have similar beliefs about competent practice and since it has been demonstrated that students take on faculty beliefs as they progress through their nursing program (Crocker & Brodie, 1974), it becomes more clear why graduates from the three types of educational programs may perceive competent practice similarly. This helps explain why so much controversy exists among nurses about the issue of what educational

preparation should be required for entry level into practice. Certainly if the nursing discipline is going to differentiate among types of education then the perceptions of what constitutes competent practice for that educational preparation must be clearly differentiated and accepted by nurses. The nursing faculty teaching in each type of program must clearly understand and believe the importance of the dimensions underlying competent practice for that educational background.

Limitation of this Study

In interpreting the results of this study, certain limitations should be noted:

1. Only faculty members were used to form the pool of respondents;
2. The study started with behaviors from existing scales as the performance criteria;
3. Not all dimensional domains of the universe competent nursing practice were represented on the two instruments used and;
4. Perceptions, not actual behaviors, were rated.

Also a factor analytic approach is not the only possible approach to criterion development.

Suggestions for Future Research

One important suggestion for future work in this area of criterion development is to further explore the stability of the dimensions identified as well as the stability of the dimensions' intercorrelations and the criterion element weights. This could be done by extending the sample to include nursing administrators and practicing professional nurses. Another need is to extend the study to include other instruments that are composed of behaviors believed to be relevant to competent nursing practice. Lists of criterion elements composed by such researchers as Jensen (1960) and Gorham (1962) should be explored to determine the underlying dimensions. Interbattery factor analysis (Gorsuch, 1974) may well be a technique that will deal with the problem of comparing factors across different instruments, lists, and samples.

Another consideration for future research in this area is to

explore the items composing each subscale for curvilinear relationships to the factor (subscale). Factor analysis is based on the assumption that a linear relationship exists between the factor and the items (elements) loading on the factor. Some of the items with lower factor loadings may well have a strong curvilinear relationship to the subscale.

Another essential area of research is to extend the data collection from perceptions of the importance of behaviors to actual behaviors exhibited by competent practicing nurses. Then actual profiles of competent nursing practitioners could be developed. Researchers in the medical field have begun pursuing this approach using factor analytic techniques (Price, Taylor, Richards, & Jacobsen, 1964).

Summary and Conclusion

This study examined the nature and dimensionality of the criterion competent nursing practice through application of a factor analytic approach. Three specific aspects were considered (1) the dimensionality of the criterion competent nursing practice, (2) the homogeneity of the dimensions on a cross-validation sample, and (3) the similarity of subscale scores among the faculty from the three distinct educational programs for preparing nurses. It was concluded that the factor analytic approach allowed the identification of dimensions that generalize to a second sample from the same population. The three identified perceived dimensions of competent nursing practice were (1) an interpersonal factor, (2) a cognitive-leadership factor, and (3) a dependent nursing function factor. The approach also provided information on the intercorrelation of dimensions and for the weighting of both the dimensions and the criterion elements. No significant difference was detected between the mean subscale scores of faculty from the three nursing educational programs.

This study demonstrated the potential of applying an empirical approach using factor analytic techniques to identify the dimensions and explore the nature of the job performance. Using such an approach requires demonstrating that the identified dimensions are stable, i.e., generalize to a cross-validation sample. Also in certain situations such as this study, it necessitates investigating whether the pool of

respondents hold similar views concerning the importance of the dimensions. Using existing instruments that measure competency can serve as a productive beginning step to exploring the nature and dimensions composing a conceptual criterion such as competent nursing practice.

APPENDIX A

CHARACTERISTICS OF PARTICIPATING NURSING FACULTY MEMBERS

Demographic Characteristics	Frequency	Adjusted Percent
Age		
20 to 24 years of age	23	2
25 to 29 years of age	193	18
30 to 39 years of age	353	33
40 to 49 years of age	298	28
50 to 59 years of age	167	16
Over 60 years of age	37	3
missing cases 7		
Marital Status		
never married	258	24
married	667	63
widowed	30	3
divorced/separated	108	10
missing cases 15		
Race/Ethnic Group		
White	1,021	96
Black	25	2
Spanish Surnamed	8	1
American Indian	0	0
Oriental	11	1
Other	0	0
missing cases 13		
Sex		
male	28	3
female	924	97
missing cases 126		

Employment Characteristics	Frequency	Adjusted Percent
Place of Employment		
Baccalaureate Degree Program	324	30
Associate Degree Program	344	32
Diploma Program	381	35
Post-Baccalaureate Program	29	3
missing cases 0		
Employment Status		
employed full time	962	89
employed part time	115	11
missing cases 1		
Type of Position		
Administrator or Assistant	76	7
Nursing Educator	995	92
Nurse Associate/Practitioner (e.g., PNP, FNP, etc.)	4	0
Other	1	0
missing cases 2		
Major Clinical Teaching or Clinical Practice Area		
community/public health nursing	61	6
family practice	2	0
gerontological nursing	8	1
maternal-infant health/women's health	119	11
medical/surgical nursing	547	51
pediatric nursing	97	9
psychiatric/mental health nursing	129	12
critical care nursing	39	4
other or double practice area	75	7
missing cases 1		

Education Characteristics	Frequency	Adjusted Percent
Basic Nursing Educational Preparation		
diploma program	484	45
associate degree program	51	5
baccaulaureate degree program	538	50
combined degree program	2	0
missing cases 3		
Year Graduated from Basic Program		
Program		
prior to 1930	0	0
1931 to 1940	30	3
1941 to 1950	156	15
1951 to 1960	284	27
1961 to 1970	359	34
1971 to present	233	22
missing cases 16		
Highest Level of Education		
diploma	22	2
associate degree	6	1
baccalaureate degree in nursing	271	25
baccalaureate degree in other field	63	41
masters degree in nursing	441	41
masters degree in other field	184	17
doctorate (e.g., Ph.D., Ed.D., D.N.SC.)	41	4
double baccalaureate degrees	12	1
double masters degrees	23	2
missing cases 15		

APPENDIX B

EXAMPLES OF ITEMS FROM THE RATING SCALES

Clinical Nursing Rating Scale

Directions to complete the rating scale: The clinical rating scale consists of a list of clinical nursing behaviors.

Judge the behaviors to be:

5 - EXTREMELY IMPORTANT - (vital, without it the patient's well-being is unlikely)
4 - IMPORTANT - (should be considered part of effective nursing)
3 - SLIGHTLY IMPORTANT - (less important than most behaviors of nurses)
2 - NOT AT ALL IMPORTANT - (is of little value at best)
1 - UNDESIRABLE - (is an undesirable behavior not expected of a good nurse)

Circle the ONE most appropriate rating number for each statement, based upon your judgment of the importance of the behavior for the practicing, professional nurse in fulfilling her role. Please note that you have been asked to rate the behaviors for the nurse as a practicing professional only. DO NOT RATE THEIR IMPORTANCE FOR STUDENT NURSES. There are no right or wrong answers.

* * * * * * * * * * * * * * * *

Examples of items from the Scale

12.	Shows ability to emphathize and focus on patient's feelings, creating a trusting and calm relationship by her presence and approach; i.e., shows understanding in listening to the patient's account of why he is upset or concerned about some aspect of his condition or care.	1 2 3 4 5
15.	For her level of experience, she demonstrates flexibility in modifying her patient care plans; i.e., is able to deviate from routine practices or apply novel solutions to nursing problems as new situations arise so as to provide the optimum physical, emotional, social, and spiritual climate for the patient.	1 2 3 4 5
19.	Reassures patient's family with appropriate information and shows her personal interest in their concerns for the patient, encouraging meaningful assistance of the patient, yet allowing him independence in appropriate self-care.	1 2 3 4 5

22. Gives p.r.n. analgesics, other medications, or treatments when most appropriate for the patient's condition to conserve his strength and enhance his therapy, making them as palatable and therapeutic as possible for the patient. 1 2 3 4 5

23. Functions as a cooperative, effective team member in nursing, demonstrating high quality nursing care, and consistently following through on her responsibilities; i.e., interpreting her view of the nursing care plan to other health team members, reporting potentially significant facts promptly to other health team members regarding patient's symptoms, etc., or being available to implement the work of the rest of the team when needed. 1 2 3 4 5

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Professional Trait Rating Scale

Instructions: This questionnaire is composed of a list of descriptive characteristics and behaviors. You are asked to judge how essential each trait is for the practicing, professional nurse in fulfilling her role. Please note that you have been asked to rate these traits for the nurse as a practicing professional only. DO NOT RATE THEIR IMPORTANCE FOR STUDENT NURSES.

Judge the trait to be:

5 - EXTREMELY IMPORTANT - (vital, without it the patient's well-being is unlikely)
4 - IMPORTANT - (should be considered part of effective nursing)
3 - SLIGHTLY IMPORTANT - (less important than most behaviors of nurses)
2 - NOT AT ALL IMPORTANT - (is of little value at best)
1 - UNDESIRABLE - (is an undesirable behavior not expected of a good nurse)

There are no right or wrong answers for these items. Judge each one in accordance with your own personal opinion.

Examples of items from the Scale		Factor
1. Quickly rises to the defense of medical and hospital practices when they are criticized by layman.	1 2 3 4 5	II
14. Never complains about receiving a patient care assignment.	1 2 3 4 5	II
19. Always present a neat appearance while on duty.	1 2 3 4 5	IV
26. Can learn a new procedure quickly.	1 2 3 4 5	IV
31. Gets along well with physicians.	1 2 3 4 5	IV
41. Knows the scientific reasons for her actions in nursing.	1 2 3 4 5	III
44. Skilled in recognizing and using signs of non-verbal communication.	1 2 3 4 5	III
45. Always tries to be smiling and cheerful when entering a patient's room.	1 2 3 4 5	II
47. Understands underlying emotional causes of patient behavior.	1 2 3 4 5	III
51. Knows how to secure the cooperation of co-workers.	1 2 3 4 5	III

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